

IN THE CLAIMS

Claims 1-18 (Cancelled)

19. (Currently amended) A method for spray drying a feed stock containing a pharmaceutical agent to produce particles suitable for pulmonary administration having a narrow particle size distribution comprising:

providing a liquid feed stock comprising a pharmaceutically active agent ~~at a flow rate of at least 5 ml/min;~~

forcing said liquid feed stock into a manifold defined between a vibratable element and a plate and forcing the feed stock through the plate, said plate comprising holes of at least one predetermined diameter, in order to produce liquid droplets;

drying said droplets in a gas stream to produce dried particles comprising a mass median aerodynamic diameter of less than 10 microns and a particle size distribution wherein at least 70% of the mass of the particles have a diameter within a 4 micron range; and

collecting said dried particles.

20. (Original) A method according to claim 19 wherein the dried particles comprise a particle size distribution wherein at least 80% of the mass of the particles have a diameter within a 4 micron range.

21. (Original) A method according to claim 19 wherein the dried particles comprise a particle size distribution wherein at least 90% of the mass of the particles have a diameter within a 4 micron range.

22. (Original) A method according to any one of claims 19-21 wherein the dried particles have a diameter within a 3 micron range.

23. (Original) A method according to any one of claims 19-21 wherein the dried particles have a diameter within a 1.5 micron range.

24. (Original) A method according to claim 19 further comprising vibrating said vibratable element in order to force said feed stock through the plate and produce droplets.

25. (Original) A method according to claim 24 wherein said plate is vibrated by coupling a piezoelectric element to said plate.

26. (Original) A method according to claim 19 wherein said holes comprise a predetermined diameter of less than 30 microns.

27. (Original) A method according to claim 19 wherein said plate comprises holes having a first diameter of less than 30 microns and a second series of holes having a second diameter of \pm 50% of said first diameter.

28. (Original) A method according to claim 27 wherein said second diameter is within \pm 20% of said first diameter.

29. (Original) A method according to claim 28 wherein said first diameter is less than 10 microns.

30. (Original) A method according to claim 19 wherein said particles are porous.

31. (Currently amended) A method according to claim 19 wherein said particles comprise a [MMD] mass mean diameter less than 10 microns and a [MMAD] mass median aerodynamic diameter of 1-5 microns.

32. (New) A method for spray drying a feed stock containing a pharmaceutical agent comprising:

providing a liquid feed stock comprising a pharmaceutically active agent;
atomizing said feed stock in order to produce liquid droplets;

drying said droplets in a gas stream to produce dried particles comprising a mass median aerodynamic diameter of less than 10 microns and particle size distribution wherein at least 70% of the mass of the particles have a diameter within a 4 micron range; and collecting said dried particles.

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